

REMARKS

This Request for Reconsideration is submitted in response to the Office Action mailed from the Patent Office on February 23, 2010.

The Office Action rejects claims 2, 5, 6, 8-14 and 18-24 under 35 USC §103(a) as unpatentable over Weigelt in view of Ma further in view of US Patent No. 6,192,283 to Holowko (Holowko).

To support the new grounds of rejection, the Examiner asserts that Weigelt teaches each of the elements of new claim 24 but for "selecting a process algorithm from the plurality of stored ...;" and "executing the identified process algorithm to optimize ..."

The Examiner then asserts that Ma teaches
selecting a situation pattern which comes close or is identical to an instantaneous situation pattern and a process algorithm linked to the situation pattern, depending on at least one part of machine-interior data and machine-interior data with consideration of target data which defines at least part of an instantaneous situation pattern (**col. 5, lines 29-58; col. 6, lines 1-9**); and
executing the identified process algorithm to optimize the machine adjustable parameters for the detected instant situation pattern (**col. 6, lines 6-11**).

The Examiner further asserts that it would have been obvious to modify Weigelt by the teachings of Ma to eliminate a need for constant operator monitoring, etc.

Applicants respectfully disagree for the following reasons.

Ma at **col. 5, line 10-28** describes fuzzy logic controllers 244 (Figs. 5A, 5B), rules based inputs and membership functions for input/output parameters.

Ma's text at **col. 5, lines 29-38**, describes an algorithm implemented for each fuzzy rule based controller 244a-244f, comprising the four steps as shown. The single algorithm is implemented by each system rule.

Ma's text at **col. 5, lines 40-47**, describes that system 210 (FIG. 6) uses one neuro-fuzzy inference system 270 with six outputs a-f, that inputs to the system 270 include harvesting conditions and crop properties (such as crop type, location, and grain yield) from the operator interface 154 and information from the on-board sensors 157 and microcontrollers 158.

Ma's text at **col. 5, lines 48-58**, describes that system 210 is an adaptive neuro-fuzzy inference system with additional learning ability from neural networks, that newly learned harvester experience is automatically integrated into the inference system, that when supervisory controller 212 learns a new set of settings, a signal is sent via line 220 to the system 210, which then adapts the inference system to the new situation and that controller 212 sends an inquiring signal via line 222 to request the settings from the system 210.

Ma, at **col. 6, lines 4-12**, teaches monitoring 314 to adjust its harvester settings from initial settings, wherein if the monitoring finds that one or more expected target ranges are not satisfied 316, the processor determines a procedure that **would be followed** by an experienced operator to adjust the

actuators and at 320 determines how much to adjust, and sends control signals to the actuators (emphasis added).

Applicants' invention as claimed does not operate in the way that Ma does. As asserted in the prior Amendment, applicants' process algorithms are predefined. Ma's supervisory controller 212 learns a new set of settings, sends a signal to the adaptive neuro-fuzzy inference system such that the newly learned harvester experience is automatically integrated into the inference system.

Ma's fuzzy logic inference system does not use predefined algorithms, nor selecting a situation pattern that comes close or is identical to an instantaneous situation pattern and therefore selects a process algorithm linked to the situation pattern, depending on the at least one part of the machine-interior data and the machine-exterior data with consideration of the target data which defines at least part of an instantaneous situation pattern. Ma and the invention as claimed are structurally and functionally different.

Moreover, while the Examiner suggests that Weigelt could be modified by Ma's "selection of process algorithm method steps" to eliminate a need for constant operator monitoring, applicants again respectfully disagree.

That is, even *assuming arguendo* that Ma's does disclose defining a plurality of process algorithms that modify, which correspond to situation patterns, selecting (based on the claimed step of detecting) one of the process algorithms, etc. and executing are steps that are equivalent to applicants' claimed steps, the skilled artisan still would not have thought to modify Weigelt with these

teachings of Ma because Weigelt is not configured to accommodate either Ma's structure or functioning.

While modifying Weigelt to incorporate the teachings of Ma would not in and of itself prevent a finding of obviousness under the teachings of In re Keller, applicants respectfully assert that such proposed modification would render Weigelt unsatisfactory for its intended purpose (see In re Gordon, 221 USPQ 1125 (Fed. Cir. 1984)), and/or at least change Weigelt's respective principles of operation (see In re Ratti, 123 USPQ 349 (CCPA 1959)). Either case compels a legal conclusion that the proposed combination cannot be obvious under the law; MPEP 2143.01.

The Examiner then asserts that Weigelt modified by Ma teaches the claim 24 invention but for steps of

- defining a plurality of specified situation patterns ...

- defining a plurality of process algorithms that modify ...

- detecting an instant situation pattern according to ...

- selecting a process algorithm from the plurality of stored ...

but that Holowko teaches the steps of

- defining a plurality of specified situation patterns according to data selected from a group consisting of machine-internal data, machine-external data, target data and combinations thereof (**col. 11, lines 19-21**);

defining a plurality of process algorithms that modify current parameter settings to optimized parameter settings, each of which corresponding to one of the plurality of specific situation patterns (**col. 11, lines 25-32**);

detecting an instant situation pattern according to sampled data selected from the group consisting of machine data and target (**col. 11, lines 10-14**);

selecting a process algorithm from the plurality of stored process algorithms by comparing the detected instant situation pattern to the stored situation patterns to identify both a stored situation pattern most closely corresponding to the instant situation pattern and the process algorithm corresponding thereto (**col. 11, lines 15-43**);

and that it would have been obvious to have modified Weigelt (as modified by Ma) with the teachings of Holowko to provide a more simple and efficient method of optimizing parameters.

Applicants respectfully disagree; however, both that Holowko discloses the features and that modifying Weigelt (as modified by Ma) would have been obvious at the time of invention.

In more detail, Holowko at **col. 11 lines 19-21** describes comparing a current status S_c of an injection molding machine to a database containing prior machine statuses S_p . Status is not equivalent to defining a plurality of situation patterns, etc., as claimed

Holowko at **col. 11 lines 25-32** describes adjusting a prior output PO previously attempted when the matched prior status S_c was found based on

results R related to prior output PO, which corresponds to matched prior S_p , and saving in a database in a manner relational to three pieces of data, e.g., indexing or physical data arrangement. A prior output PO and results R in any manner known is not equivalent defining a plurality of process algorithms, etc., as claimed.

Holowko at **col. 11 lines 1-14** describes that, depending on the particular injection molding machine and application, other and/or additional rules may be utilized to determine a current status: S_{c1} or S_{c8} , but for the process for defining Status previously described. There is no description of detecting an instant situation pattern from machine-internal data, machine-external data and combinations thereof, as claimed.

Holowko at **col. 11, lines 33-43** describes determining results R at a point in time after a prior output PO is attempted, including measurements and comparisons by rules block 100 or error E, but that regardless of the method used, the output O_A is set equal to the prior output attempted PO for the current status and multiplied by an adjustment factor A based upon the results. There is no description of selecting a process algorithm from a plurality of stored process algorithms by comparing, etc., as claimed.

It follows that modifying Weigelt (as modified by Ma) by these Holowko features would not realize the invention as set forth in claim 24. But even *assuming arguendo* that Holowko does disclose the claimed elements (as asserted by the Examiner), modifying Weigelt (as modified by Ma) by these

teachings of Holowko would not be a simple matter so would not have been obvious to the skilled artisan.

In more detail, Weigelt operates both hardware and software, which, after modification by the teachings of Ma, would not be able to accommodate the database-centric operation as taught by Holowko without significant further modification. Such further modification, however, would render Weigelt, or Weigelt modified by Ma, unsatisfactory for its intended purpose (see In re Gordon, 221 USPQ 1125 (Fed. Cir. 1984)), or at least change Weigelt's, or Weigelt as modified with Ma, respective principles of operation (see In re Ratti, 123 USPQ 349 (CCPA 1959)). Either case compels a legal conclusion that the proposed combinations cannot be obvious under the law; MPEP 2143.01.

It follows that new independent claim 24, and claims 2, 5, 6, 8-14 and 18-23, which depend from claim 24, are patentable under 35 USC §103(a) over Weigelt in view of Ma further in view of Holowko, and applicants respectfully request withdrawal of the rejections therefore.

It is noted that with respect to the Information Disclosure Statement filed by Applicant, and considered by the Examiner on February 13, 2010, certain references consisting of U.S. Patent Application Publications were not considered. Apparently this was because when the publications were indicated leading zeroes were not used.

Applicant now submits herewith a revised PTO-Form 1449, in which leading zeroes have been used. Accordingly, it is requested that the IDS now be considered by the Examiner.

Accordingly, the application is believed to be in condition for allowance. Action to this end is courteously solicited. However, should the Examiner have any further comments or suggestions, the undersigned would very much welcome a telephone call in order to discuss appropriate claim language that will place the application in condition for allowance.

Respectfully submitted,

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